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**Listing of claims:**

1-57 (Cancelled)

58. (New) A method of assessing an amyloid-related disease comprising:  
administering to a subject an imaging agent that binds to a soluble A-beta and is labeled for detection; and  
non-invasively detecting the imaging agent that is present as a complex of the imaging agent bound to soluble A-beta.

59. (New) A method as in claim 58, wherein the soluble A-beta is selected from monomeric A-beta peptides, dimeric A-beta peptides, trimeric A-beta peptides, oligomers of up to 24 A-beta peptides, and combinations thereof.

60. (New) A method as in claim 59, wherein the soluble A-beta peptides of A-beta is selected from A-beta 1-38, A-beta 1-39, A-beta 1-40, A-beta 1-41, A-beta 1-42, A-beta 1-43, and combinations thereof.

61. (New) A method as in claim 58, wherein the soluble A-beta does not exhibit green birefringence when stained by Congo red.

62. (New) A method as in claim 58, wherein the imaging agent that binds to soluble A-beta comprises an antibody or an antibody fragment.

63. (New) A method as in claim 58, wherein the imaging agent is labeled with a radioisotope, a paramagnetic particle, an optical particle, and combinations thereof.

64. (New) A method as in claim 63, wherein the imaging agent is labeled with a radioisotope selected from <sup>3</sup>H, <sup>11</sup>C, <sup>14</sup>C, <sup>18</sup>F, <sup>32</sup>P, <sup>35</sup>S, <sup>123</sup>I, <sup>125</sup>I, <sup>131</sup>I, <sup>51</sup>Cr, <sup>36</sup>Cl, <sup>57</sup>Co, <sup>59</sup>Fe, <sup>75</sup>Se, <sup>152</sup>Eu, and combinations thereof.

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65. (New) A method as in claim 58, wherein the imaging agent is labeled with a paramagnetic particle selected from  $^{157}\text{Gd}$ ,  $^{55}\text{Mn}$ ,  $^{162}\text{Dy}$ ,  $^{52}\text{Cr}$ ,  $^{56}\text{Fe}$ , and combinations thereof.

66. (New) A method as in claim 58, wherein the imaging agent comprises an optical label selected from a fluorophore, a chemiluminescent entity, and combinations thereof.

67. (New) A method as in claim 58, wherein the step of non-invasive detection comprises generating and analyzing an image using a technique selected from positron emission tomography, magnetic resonance imaging, optical imaging, single photon emission computed tomography, ultrasound, and x-ray computed tomography.

68. (New) A method as in claim 58, wherein the step of non-invasive detection further comprises measuring the amount of imaging agent bound to soluble A-beta.

69. (New) A method of assessing an amyloid-related disease comprising:  
administering to a subject having or suspected of having an amyloid-related disease, an imaging agent that specifically binds to a soluble beta-amyloid and is labeled to emit a detectable signal; and  
non-invasively detecting the imaging agent bound to A-beta.

70. (New) A method as in claim 69, wherein the soluble A-beta is selected from monomeric A-beta peptides, dimeric A-beta peptides, trimeric A-beta peptides, oligomers of up to 24 A-beta peptides, and combinations thereof.

71. (New) A method as in claim 69, wherein the soluble A-beta is selected from A-beta 1-38, A-beta 1-39, A-beta 1-40, A-beta 1-41, A-beta 1-42, A-beta 1-43, and combinations thereof.

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72. (New) A method as in claim 69, wherein the imaging agent that binds to soluble A-beta is selected from antibodies and antibody fragments.
73. (New) A method as in claim 69, wherein the imaging agent comprises a label selected from a radioisotope, a paramagnetic particle, and an optical particle.
74. (New) A method as in claim 69, wherein the imaging agent comprises a label selected from  $^3\text{H}$ ,  $^{11}\text{C}$ ,  $^{14}\text{C}$ ,  $^{18}\text{F}$ ,  $^{32}\text{P}$ ,  $^{35}\text{S}$ ,  $^{123}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{51}\text{Cr}$ ,  $^{36}\text{Cl}$ ,  $^{57}\text{Co}$ ,  $^{59}\text{Fe}$ ,  $^{75}\text{Se}$ ,  $^{152}\text{Eu}$ , and combinations thereof.
75. (New) A method as in claim 69, wherein the imaging agent comprises a label selected from  $^{157}\text{Gd}$ ,  $^{55}\text{Mn}$ ,  $^{162}\text{Dy}$ ,  $^{52}\text{Cr}$ ,  $^{56}\text{Fe}$ , and combinations thereof.
76. (New) A method as in claim 69, wherein the imaging agent comprises an optical label selected from a fluorophore and a chemiluminescent entity.
77. (New) A method as in claim 69, wherein the amyloid-related disease is Alzheimer's disease.
78. (New) A method as in claim 69, wherein the step of detecting comprises noninvasively measuring the level of the imaging agent within the subject.
79. (New) A method as in claim 69, wherein the step of non-invasive detection comprises generating and analyzing an image using a technique selected from positron emission tomography, magnetic resonance imaging, optical imaging, single photon emission computed tomography, ultrasound, and x-ray computed tomography.

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80. (New) A method as in claim 69, wherein the step of non-invasive detection further comprises measuring the amount of imaging agent bound to soluble A-beta.

81. (New) The method of claims 57-80, wherein the imaging agent comprises:

